

CLAIMS

1) A packaging machine for wrapping products (2) in
respective sheets (3) of heat-seal wrapping material, the
5 machine comprising wrapping means (5) for forming a
tubular wrapping (6) from a continuous web of heat-seal
material, and for feeding products (2) successively into
the tubular wrapping (6), each product (2) being located
between two free tubular portions (11) of said tubular
10 wrapping (6); and sealing and feed means (9) comprising
at least two pairs of sealing devices (12, 13), the
sealing devices (12, 13) in each pair of sealing devices
(12, 13) being movable along a sealing path (P) to feed a
respective said product (2) along the sealing path (P) at
15 a variable travelling speed (V2), and perform a
respective sealing operation on a respective said tubular
portion (11); and being characterized by comprising
actuating means (27) for advancing said sealing devices
(12, 13) with respective independent laws of motion.

20 2) A packaging machine as claimed in Claim 1,
wherein said actuating means (27) comprise an actuating
device (28) for each said sealing device (12, 13); logic
control means being provided to selectively control said
actuating devices (28) independently of each other.

25 3) A packaging machine as claimed in Claim 1,
wherein each sealing device (12, 13) has a heated surface
(17a); orienting means (40) being provided to keep said
heated surface (17a) substantially parallel to said

sealing path (P) along the sealing path (P) itself.

4) A packaging machine as claimed in Claim 3, wherein each sealing device (12, 13) comprises a carriage (22) movable along said sealing path (P); and a sealing
5 bar (14) having said heated surface (17a) and connected to the carriage (22) to oscillate, with respect to the carriage (22), about a relative axis (16) and under the control of said orienting means (40).

5) A packaging machine as claimed in Claim 4,
10 wherein said orienting means (40) comprise cam means (46, 47); and at least one tappet (44, 45) carried by said sealing bar (14) and cooperating with said cam means (46, 47) to control the angular position of the sealing bar (14) about said axis (16).

15 6) A packaging machine as claimed in Claim 4, and also comprising two racks (25) substantially parallel to each other and to said sealing path (P); the carriage (22) comprising a gear train (21), in turn comprising an input gear and an output gear (21a, 21c), each meshing
20 with a relative said rack (25), and an intermediate gear (21b) interposed between the input gear and the output gear (21a, 21c).

7) A packaging machine as claimed in Claim 6, wherein said actuating means (27) comprise, for each said
25 carriage (22), an electric motor (28) for operating the relative said input gear (21a).

8) A packaging machine as claimed in Claim 7, wherein said actuating means (27) also comprise power

means (51) for supplying electric power to said electric motors (28); said power means (51) being power means (51) with sliding electric contacts.

9) A packaging machine as claimed in Claim 8,
5 wherein said power means (51) with sliding electric contacts comprise at least one fixed first guide (52) made of conducting material; and, for each said electric motor (28), at least one first sliding brush (53) also made of conducting material, and which is carried by the
10 relative electric motor (28) and engages said first guide (52) in sliding manner.

10) A packaging machine as claimed in Claim 3, and also comprising further power means (54) for supplying electric power to said heated surfaces (17a); said
15 further power means (54) being power means (54) with sliding electric contacts.

11) A packaging machine as claimed in Claim 10, wherein said further power means (54) with sliding electric contacts comprise at least one fixed second
20 guide (55) made of conducting material; and, for each said heated surface (17a), at least one second sliding brush (56) also made of conducting material, and which is carried by the relative sealing device (12, 13) and engages said second guide (55) in sliding manner.

25 12) A packaging machine as claimed in Claim 1, and also comprising at least one third guide (39) extending along said sealing path (P); each sealing device (12, 13) having connecting means (38) for connection to said third

guide (39) and for controlling the position of the sealing device (12, 13) in a direction crosswise to the sealing path (P).

13) A packaging machine as claimed in Claim 12, wherein
5 said connecting means (38) comprise two connecting members (38) mounted for rotation on the relative sealing device (12, 13); the connecting members (38) and the third guide (39) being so formed that the connecting members (38) move along the third guide (39) with a
10 rotary-translational motion.